

**AMENDMENTS TO THE DRAWINGS**

Please replace the original Drawing Sheets showing Figures 1-18 in the present application with the attached Replacement Drawing Sheets showing Figures 1-18 with proper labeling.

Attachment: Sixty-two (62) Annotated Sheets Showing Changes

Sixty-two (62) Replacement Drawing Sheets

**REMARKS**

In response to the Notice to File Corrected Application Papers – Notice of Allowance Mailed (the “Notice”) dated August 4, 2009, a copy thereof is attached, Applicants hereby submit Annotated Sheets Showing Changes and Replacement Drawing Sheets containing Figures 1-18 in the present application. According to the Notice, Figures 13A, 13B, 13C, 13D, 15, 16 and 17 as originally submitted are continue over several pages without proper labeling as continuation. The Replacement Drawing Sheets containing Figures 13A, 13B, 13C, 13D, 15, 16 and 17 submitted herewith correct the aforementioned defects. Furthermore, because the total number of the drawing sheets has changed in view of the amendment made to Figure 16 in the Response dated October 24, 2007, Applicants submit herewith a complete set of the drawings that reflects the correct numbering of the Drawing Sheets. A set of Annotated Sheets Showing Changes is also enclosed to show the changes made in each drawing. In view of the present amendment, Applicants believe that the application is in compliance with 37 CFR § 1.84 and 37 CFR § 1.121(d). No new matter has been added in the Replacement Drawing Sheets submitted herewith.

This response is filed within the two-month period for response from the mailing of the Notice. No fee is believed due. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 13477-00002-US from which the undersigned is authorized to draw.

Respectfully submitted,

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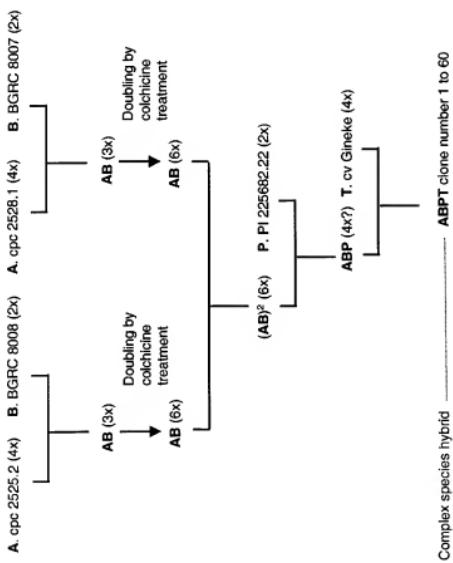


Figure 1A

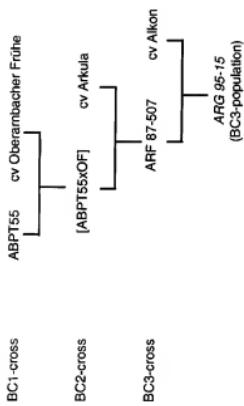


Figure 1B

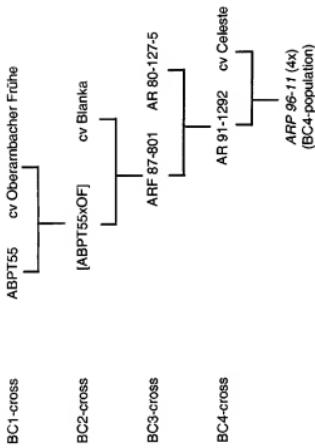


Figure 1C

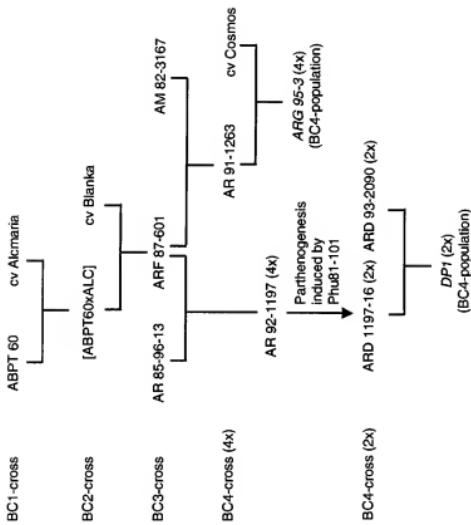
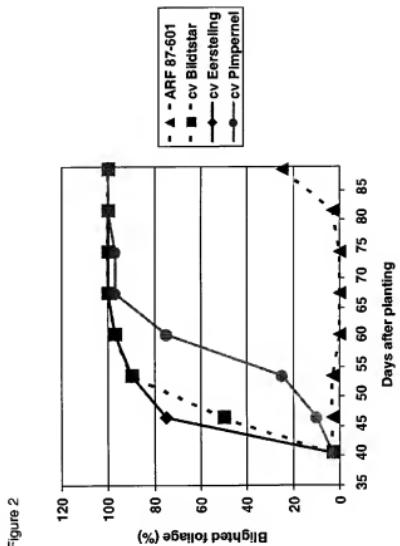


Figure 1D

## Annotated Sheet Showing Changes

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## Annotated Sheet Showing Changes

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Figure 3  
\* ARF 87-507 and ARF 87-601 had identical disease progress curves

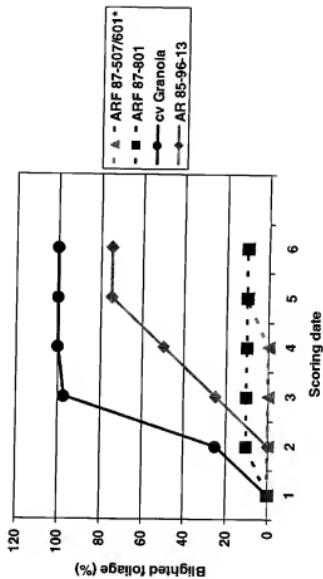




Figure 4



Figure 4 dia 3



Figure 4 dia 4



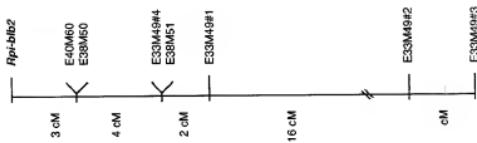
Figure 4 dia 5



Figure 4 dia 6

## Annotated Sheet Showing Changes

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ARG 95-15

Figure 5

## Annotated Sheet Showing Changes

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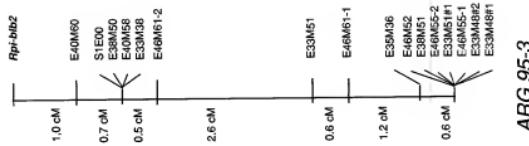


Figure 6

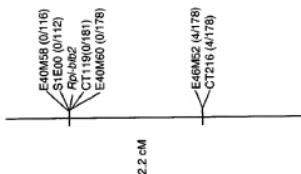


Figure 7

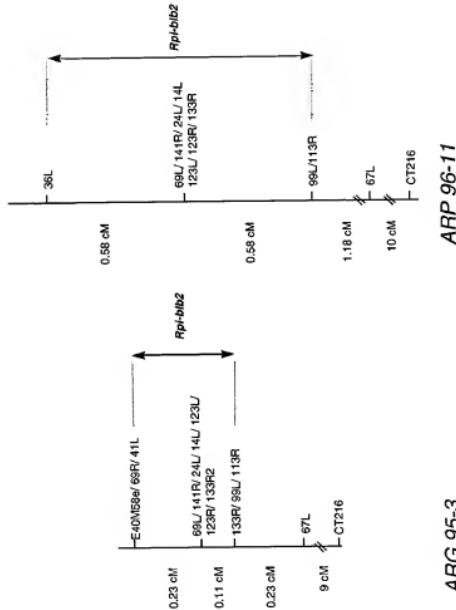


Figure 8

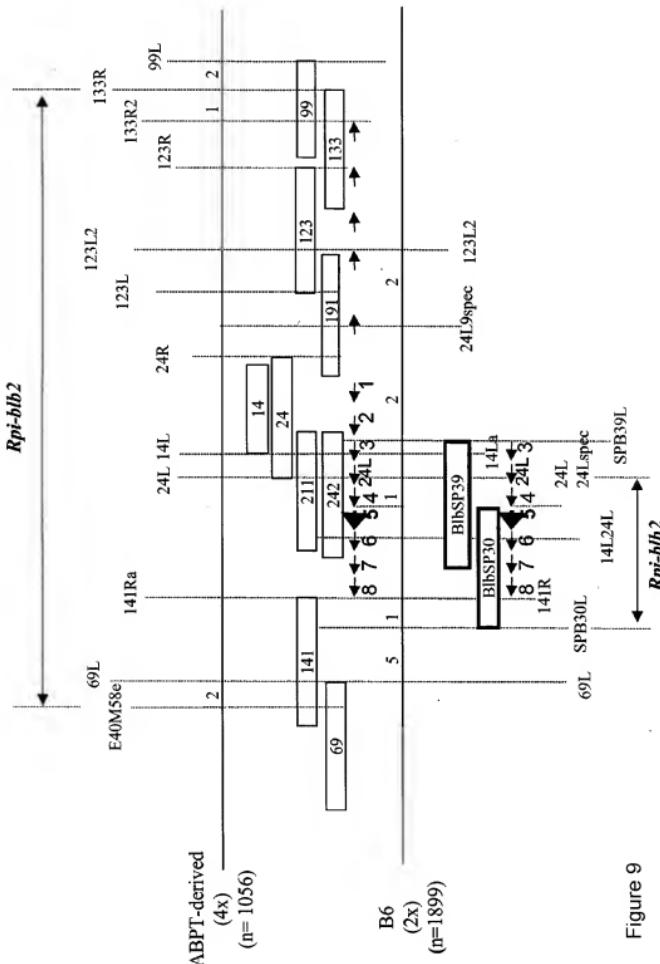


Figure 9

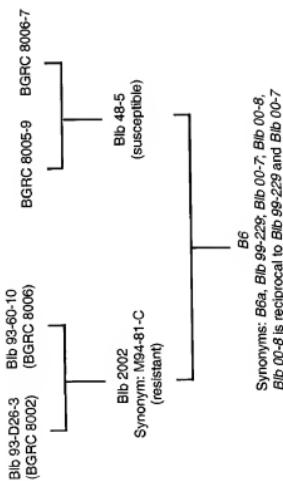


Figure 10

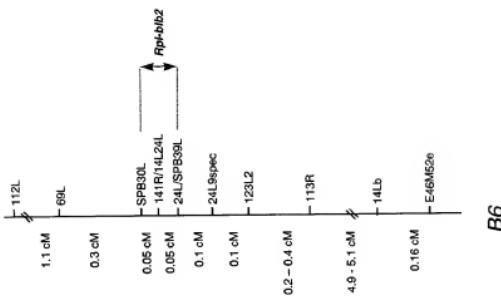


Figure 11

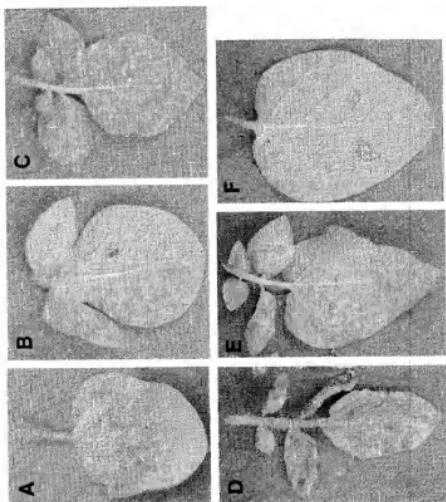


Figure 12

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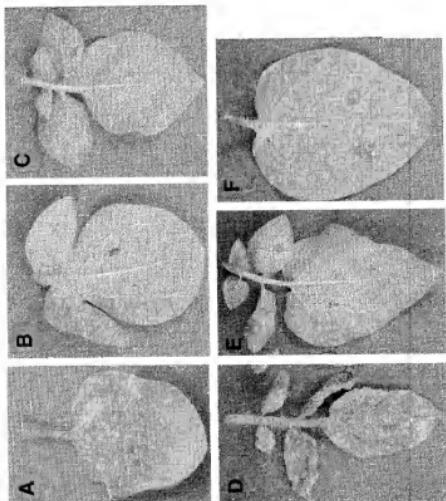


Figure 12 dia2

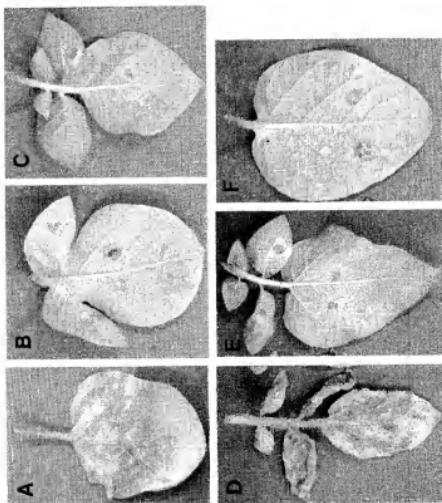


Figure 12 dia 3

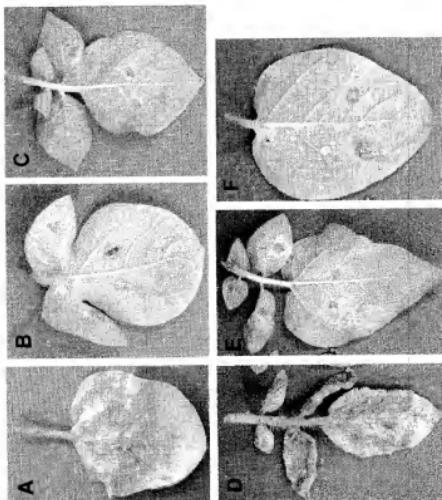


Figure 12 dia 4

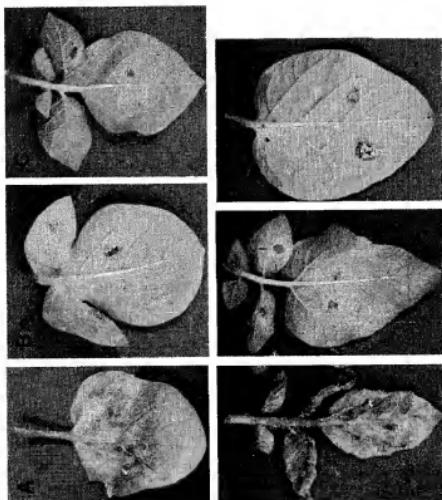


Figure 12 dia 5

Figure 13A

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CTGAAATTGAAGCTGACATTATTGTACATATGTCAGCTTTTATTG 200  
CGATTGGAGAAGTTGAAGATAATGACTAGAAAAAGACAAGAGGTG 250  
AGAATCTGCTTCAACCAATTGGATGATGGCAAAGACGTGGGTGT 300  
AAATATGCTTACTAGCTCGCCGGAATATGGATGACTGATAAGCTT 350  
GTATCATCGITCTAAATCAGATGCCACCATGATGGATGAGCAATTGGGCT 400  
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TTTCTGGAGTACTCAATATGAGGTTCTCAGAATGTATGTCACAT 500  
AAGAGATTTCATGGATTGATGAGTGTGATTGCTTAAAGCATGAGATGG 550  
TTGAGAATGCTTATCTCTCAACTGATGGCTGAGAGAGTAGGACGC 600  
TTCTTGGGAGGATCAGGCTGATGAAGACTCTCAACTCTCGAGCTAGA 650  
TGAGGATGATCAGAATGATAAACGACCTCAACTCTCAAGCTACACATC 700  
TACTCTGAGATTGTTCCAACGAAATTGGAGGTTATGCACATATGTTAT 750  
AAAACCTTGAAGACTCAACTCAACAGAAATTGGACGCTTCAAGAA 800  
GCTCTGGAACCTCTCCGGACATTCTCAGAGAATATCTGATTCTAC 850  
AAGAGCATATGATAACTGTATTACCCCTAACACTTCAGGGCTCGAAC 900  
ATTCTGATGATGAACTTCTTATGATTCTCTGATATGCCGCC 950  
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TAGCACTTACCGGGAGGATCTCAACTCTTGACCGACTTGGAGAGAAA 1050  
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TCTGGAAAATATTGAACTCTTAAAGGAGATCTCAACATCTTATCTGA 1150  
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TTATTCAATTGCTTGTAAAGGACAAATTGGGCTGGTGAAGAAGACT 1300  
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AGATTCATTATTGTCAGAGATAATGGTCTCTTACATCTTATTCTCAC 1450  
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TTACATGAGAAACATTCCAAGAACAGAGGTCTCATGTTGTGAACCTCTCC 1550  
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GTTTGGTGAGGAGACAAACCTGTACTTAGAAGCTACCGAGTGGACCG 1650

Figure 13A (cont.)

GCAGATCTAGATGTCATTGATCATTCGATCATGGTATGCCGGTTTAGGTAAAAC 1700  
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ACCTTCGTGATGGTGCACGGTCGACCAAGTATATGACGAGAGAAGTTG 1800  
TTGGATAAAATTTCATCAAGTTAGTGTACTCAAATTCAAATTTGAGTGA 1850  
GAATATTGATGTTGCTGATAAACTACGGAAACAAATTGTTGGAAAGAGGT 1900  
ATCTTATTGCTCTAGATGACGTGTTGGGACTAAATACATGGGTGAGCTA 1950  
ACAAGACCTTTCTGTGGTATGGAAAGGAAGTAGAAATTATTTGACAAC 2000  
TCGAGAAAAGAAAAGTGTGTTGATGGAAAGCTCTACACTGATCCTCTTA 2050  
ACCTTCGATTTGCTAAGATCAGAAGAAAAGTGGGAGTTAGAGAAAAGG 2100  
GCATTGGAACCGAGATTGCGCTGTGACTATTGGATGTTGGTAAAGA 2150  
AATAGCGAAAATTGTAAGGGCTTCCTTGGTGGATCTGATTGCTG 2200  
GAATCTGCTGGAGGAGAAAAGAGGTGTGTTGAGTTGTA 2250  
AATAATTGCAATTCTTTATTTGAAAGATGAAGTGGAAAGTGTGAAAGT 2300  
TATAGAAATAAGTTATGACCAACTTACCTGATCACCTGAAGCCATGCTTGC 2350  
TGTACTTGCAGTCGGCGAAGGACTGGTAAACGACATCCATGAGTTG 2400  
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TCTGGAGAAGTGGTGGAAAATTATTGGATGATTTAATTTCAGTAGCT 2500  
TGGTAATTGTTCAATGAGATAGGTGATTACCCACTTGCCAACTTCAT 2550  
GATCTTGTCATGACTTTTGTGATAAAAAGCAAGAAAGGAAAAGTTGTG 2600  
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GCATTGATTATGATGATGATGAAAGACACTTGGCTTAATTGGCTCTG 2700  
TTGGTCAAAATAAGAAAAGGACATTCGGTAACACCTCTATTCTTGAC 2750  
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GACACTGGAGGCTCTTGAACACTGCACTGGATCCTCTTTATCATG 2850  
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TCTGGAAATCTAGAAATCTTGTGTTGGATAACAAAAGAATCAACCTTGATA 3000  
CTATTACCGAGAATTGGGATCTTGATGAAAGTTGCAAGTGTGTCACGAC 3050  
TGCTTGTTCTTCTTGTATGGATGCAAGATGAATCAATACTGATAGCAG 3100  
AGGACACAAAGTTAGAGAATTGACAGCATAGGGGAACTCGTGTCTTCC 3150  
TATTGGAAAGATAACAGAGGATATTTCAAAAGGCTCCAACTTCAAGT 3200  
GCTTCATTCAAACTCAAGGAGTCATGGGATTATTCAACAGAGCAATT 3250  
GGTCCCGAAATTGGATTCTCAACTGAACTGAGAAAACACTGAGAT 3300  
TTTGAAAGATCAAAACACAAATGACAGTGGGTCTCTGCAGCCATAATCG 3350  
GCCATGGGATTTCACCTTCTCGAGTTGAAAAGATTGCAATTGATG 3400

Figure 13A (cont.)

AATTTCTCTGACATCCGATTCACTATCACAAATAGCGAGACTGCTGAAAC 3450  
CTTGAAGAGTTGTACCTTATCGTACAATCATCCATGGGGAAAGAATGGAA 3500  
CATGGAGAAGAAGACCTTTGAGAATCTCAAAATGTTGATGTTGAGTC 3550  
AAGTGATTCTTCAAGTGGGAGTTGGAGAGGAATCTTTCCACCCCTT 3600  
GAGAAATTAGAACTGTCGACTGTCATAATCTTGAGGGAGATTCCGCTAG 3650  
TTTTGGGGATAATTATCCCTGAAAATTATCGAACTTGTAAAGGAGCCCTC 3700  
AACTTGAAAATTCCGCTCTCAAGATAAGGAATATGCTGAAGATATGAGG 3750  
GGAGGGGACGAGCTTCAGATCCTGGCCAGAAGGATAATCCGTTATTTAA 3800  
GTAG 3804

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Figure 13B

ATGGAAAAACGAAAAGATAATGAGAAGCAACACTCAATTGGTATGTTA 50  
TTGATAGAGTGAACGTAAAGTATTGAATTGTAGATATCATGTGGCTTT 100  
AAAAATTGATATGTTATTGGCAGGGAGTCATTTCTGCTCTCGCA 150  
AGGATGCTGCCAATGTTCTGGATTCTCTAGAGAGATAAAGAATGAAGAA 2001  
GATCAAAAGGCTGTTGATGTGGATCTGATTGAAAGCCTGAAATTGAAGCT 2501  
GACATTATTTGATACATATGTCAGCTTCTATTCCGATTTGGAGAAGT 3001  
TTGAAAGATAATGACTAGAAAAAGACAAGAGGTTGAGAATCTGCTCAA 3501  
CCAATTGATGATGATGGCAAAGACGTGGGTGAAATATGCTTAC 4001  
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AATCAGATGCCACCATGATGGATGACAATGGGCTTCCTCTTGAAT 5001  
CTCTCTCATCTATCCAAGCATGTCGTAAGATGTTCTGGAGTGAC 5501  
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TCAGGGCTGATGAGAGACTCTCAACTCTCGAGCTAGATGAGGATGATCAGA 7501  
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GTTCCAACACTGAATTGGAGGTTATGCACTATGTTATAAAACTTGAAAGC 8501  
TTCAACTTCAACAGAAATTGGACGCTTCATTAAAGAAGCTCTGGAAACCT 9010  
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ACTGTTATTACCCCTAACACTTCAGGGGCTGAAACATTCTAGTCATGAT 1000  
GGAATTCTTATGATTATCTCTGATATGCGGCCAAGGACTTTATTC 1050  
ATCATGACAAACTTTTGATCTCTGGCTGTGTTGAGCATTACCGG 1100  
GAGGTATCAACTCTGTCAGCGACTGGAGAGAAATTAAAGGTTAAAGA 1150  
GAGTACTGACGAAACAAATTGCAACCTAAAGTTCTGGAAATATTG 1200  
AACTCTTAAAGGAAGATCTAACAACTGTTTACTGAAAGTCCCGATTCA 1250  
TCTCAATATTGCTTCCCATGAGTGTGATGGACCTCTCTCATGCTATGCT 1300  
ACAGAGACACTTAGATGATTGCTGGATTCCAATGCTTATTCAATTGCTT 1350  
TGATAAAGGAACAAATTGGGCTGGTGAAGAAGACTTGGAAATTATAAGA 1400  
TCTTTTCTCGCAATATTGACCAAGGATTGTATAAAGATCTCTGGAAACG 1450  
TGTCTAGATGTGGCATATGAGCAGGAGATGTCATGATTCAATTATTG 1500  
TTCGAGATAATGGTCTTACATCTTATTTCTCACTTCCATTACCGAGA 1550  
AAGAAGATGATGCTTATCAAAGAAGAGGTCCTGATTACATGAGAACAT 1600  
TTCCAAGAACAGAGGCTCATGTTGAACTCTCCAAAGAACCGATTG 1650

Figure 13B (cont.)

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ACAAACTTGTATCTTAAAGCTCACAGTGGACCGCAGACTAGATGT 1750  
CATTTGCATCATGGTATGCCGGTTAGTAAACTACTTGGCTACA 1800  
AAAGTATACAATGATAAATCAGTTCTGCCATTGACCTTCGATGG 1850  
TGCACGGTCGACCAAGTATATGACGAGAAGAGTTGGATAAATT 1900  
CAATCAAGTTAGTGTACCAAATTCAAAATTGAGTGTGAGAATATTGTGTTG 1950  
CTGATAAAACTACGAAACAAATTGTTGGAAAGAGTATCTTATTGTCTTA 2000  
GATGACCTGTGGGATACTAAATACATGGATGAGCTAACAGACCTTTCC 2050  
TGATGGTATGAAAGGAAGTAGAAATTATTTGACAACCGAGAAAAGAAG 2100  
TTGCTTGGATGGAAAGCTCACACTGATCTCTTAACCTTGGATTGCTA 2150  
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GAGTTGCCCTGATGAACTATTGGATGTGGTAAAGAAAATGCCGAAAATT 2250  
GTAAGGGCTTCTTGTGTGGATCTGATTGCTGAATCATTTGGGG 2300  
AGGGAAAAGAAAAGAGTGTGTGGCTTGAGTTGAAATAATTGCTT 2350  
CTTTATTTGAAGAATGAGTGGAAAGTGTGAAATTATGAAATAAGTT 2400  
ATGACCACTTACCTGATCACCTGAAGCCATGCTGCTGACTTTGCAAGT 2450  
GCGCCGAAGGACTGGGTAACGACAATCCATGAGTTGAAACTTATTGGGG 2500  
TTTGTGAGGATTGTTGGAAAAGACAGATATGAGAGTCTGGAGAAGTGG 2550  
TGAAAATTATTGGATGATTAAATTTCAGTAGCTTGTAAATTGTTTC 2600  
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CAAGTCTCCATCACATTGTCGACGTCAATTAGCATTGATTGAT 2750  
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GAAAGGCATTCCGGTAAACACCTCTATTCTTGACCATAAATGGAGATG 2850  
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CTTAGAACCTTGACCTGGATCTTCTGATGTTATCATGGTAAAGATTCTT 2950  
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CAGAAGTTAAATCTGCCTTGTCTTCTCAACCTCTGGAACTTAGAA 3050  
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AGAGGATATTTCAAAAGGGCTCCCAATCTCAAGTGCTTCAATTCAAAAC 3300  
TCAAGGAGTCATGGGATTATTCAACAGAGCAATTGGTTCCGAAATTG 3350  
GATTTCTTAACTGAACTAGAAAACACTCACTGTAGATTGAAAGATCAA 3400

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Figure 13B (cont.)

CACAAATGACAGTGGTCCTCTGCAGCCATAATGGCCATGGGATTTTC	3450
ACTTCCCTCGAGTTGAAAAGATTGCAATTGCATGAATTCCCTCTGACA	3500
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CCTTTATCGTACAATCATCCATGGGAAGAATGGAACATGGGAGAGAAG	3600
ACACCTTGAGAATCTCAAATGTTGATGTTGAGTCAGTGATTCTTCC	3650
AAGTGGGAGGTTGGAGAGGAATCTTCCCACGCTTGAGAAATTAGAACT	3700
GTCGGACTGTCATAATCTTGAGGAGATCCGCTAGTTGGGATATTT	3750
ATTCCCTGAAAATTATCGAACCTTGTAAGGAGCCCTCAACTTGAAAATTCC	3800
GCTCTCAAGATTAAGGAATATGCTGAGATAATGAGGGAGGGAGCAGCT	3850
TCAGATCCTGGCCAGAAGGATATCCCGTTATTTAAGTAG	3890

Figure 13C

GATCTAGAATCACCGAACCTCCCCTCGGTACAGCTCCTCCAGTTCTACCA 50  
TGAATTCTATCCACTGATTCCTCTCAATGCCATTGAGATTCTCTCGA 100  
TCTATGCTCAAAAATCCCGAGATAAAACCTAGATCTGCTTCAAAATGCT 150  
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ACTATTTAGAAGACTGATTGAGAGGAAGAGAGAGAAAAATTCTATA 250  
TTGAACTCATGAACCAAATGAATGAAAAAAATAATGAGAAGAACTATAC 300  
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TAACTGACTCTAACAACTAGACTGATAGGTGTACATTCTGTTAGTGCA 400  
CTGAGTGCATTAACTAACTGCTTAACATAAAAGAAATGTTCTCGAACCT 450  
CATTCGAATAGCTCAATGAGAACAACTGTGTACCTGTAAGACACA 500  
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AATTAACAAAGACCCCTTGAAATTAAAGCTGTAAATTGAAAATTGAGT 650  
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TCTAATTTGCTACTCTCATCTATTGAGTACAGTTAGGAAAGTA 950  
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CAAAGAGAAAGGGAAATAATTGCAAGGAGAAAGAGAGAGGTAAATACCT 1050  
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AAAACGAAAAGATAATGAGAGAGCAACAACTCATGGTATGTTATTGGA 1600  
TAGAGTGAACGTGAAAGTATTGAAATTGAGATATCATGTCGGCTTTAAAAA 1650

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Figure 13C (cont.)

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GCTGCCAATGTTCTGGATTTCTAGAGAGATTAAGAAATGAAAGATCA 1750  
AAAGCTGTGATGTTGGATCTGATTGAAACGCTGAAATTGAAAGCTGACAT 1800  
TTATTTGACATATGTCAGCTTCTTATTCCGATTGAGAGATTGGAA 1850  
GATATAATGACTAGAAAAAGAACAGAGGTTGAGAATCTGCTCAACCAT 1900  
TTTGGATGATGGCAAAGACGTCGGGTGAAATATGCTCTACTAGCC 1950  
TCGCGGTAATATGGATGACTGTATAAGCTGTATCATGCTCTAAATCA 2000  
GATGCCACCATGATGGATGACCAATTGGGTTCCCTCTCTGAATCTCTC 2050  
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CTTCAACAGAAAATTGGACGCTTCATTAAGAAGCTCTGGAAACCTCTCG 2450  
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TATTACCCCTAACACTTCAGGGCTCGAAACATTATGTCATGATGGAAT 2550  
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CGATCAATTGGTATGCCGGTTAGGTTAAACACTTTGGCTACAAAGTA 3350  
TACAATGATAATCAGTTCTGACCAATTGACCTTCGTCATGGTCAC 3400

Figure 13C (cont.)

GGTCGACCAAGTATAGCAGAGAAGACTTGTGGATAAAATTTCAATC 3450  
AAGTTAGTGACTCAAATTCAAAATTGAGTGGAAATATTGATGTTGCTGAT 3500  
AAACTACGGAAACAATTCTTGGAAAGAGGTATCTTATTGCTTAGATGA 3550  
CGTGTGGGATACTAATACATGGATGAGCTAACAGACCTTTCTGATG 3600  
GTATGAAAGGAAAGTGAATTATTGACAACTCGAGAAAAGAAAGTTGCT 3650  
TTGCGATGGAAAGCTCCTACACTGATCCTCTAACCTTCGATTGCTAAGATC 3700  
AGAAGAAAAGTTGGGAGTTATTAGAGAAAAGGGCATTTGGAAACGAGAGTT 3750  
GCCCTGATGAACTATTGGATCTTGGTAAAGAAATAGCCGAAAATTGTA 3800  
GGGCTTCTTGGTGTGGATCTGATTGCTGGAAATCATTGCTGGAGGG 3850  
AAAGAAAAAGACTGTGTGGCTTAAGTTGAAATATTGCTATTCTTTA 3900  
TTTGAAGAATGAAGTGGAAAGTGTGATGAAAGTTAGAAATAAGTTATGAC 3950  
CACTTACCTGATCACCTGAAGGCCATGCTGTACTTTGCAAGTGCGCC 4000  
GAAGGACTGGTAACGACAATCCATGAGTTGAAACCTTATTGGGGTTTG 4050  
AAGGATTGTTGAAAAGACAGATATGAAGAGTCTGGAAGAAGTGTGAAA 4100  
ATTATTTGGATGATTTAATTCCAGTAGCTTGTAAATTGTTCAATGA 4150  
GATAGGTGATTACCTACTTGCCTAACCTCATGATCTTGTGATGACTTTT 4200  
GTTTGATAAAAGCAAGAAAAGGAAAGTTGTGTGATCGGATAAGTTCAAGT 4250  
GCTCCATCAGATTGTCGCCACGTCAAATTGCAATTGATTATGATGATGA 4300  
TGAAGGACACTTGGGCTTAATTGTCTCTGGTTCAAAATAAGAAA 4350  
GGCATTCCGGTAACACCTCTATTCTTGGCCATAAAATGGAGTGAGCTG 4400  
GACGACCATCTTCTGTACATTTCACTAACAGACACTTGGAGCTTCTTAG 4450  
AACCTTGACCTGGAAATCTCTTATCATGGTTAAAGGATTCTTGTGTA 4500  
ATGAATATGATGTTGATCATTTGAGGTACTTAAGCATTGGGACAGAA 4550  
GTTAAATCTGCTTTCTCTTCACAACTCTGGAACTTAGAAATCT 4600  
GTTTGGGATAACAAAGATCAACCTGTGAACTTACCGAGAAATTGGG 4650  
ATCTTGAAAGTGTGAACTGCTGTGTCAGCAGTCTGTTGCTTTGAT 4700  
ATGGATGCAAGTGAATCAAACTGTAGTAGCAGAGGACACAAAGTTAGAGAA 4750  
CTTGACAGCATTAGGGAAACTCGTGTCTTCTATTGGAAAGATAACAGAGG 4800  
ATATTTCAAAAGGCTTCCAATCTCAAGTGCTTCATTCACACTCAAG 4850  
GAGTCATGGGATTATTCACAGAGCAATATTGGTTCCGAAATTGGATT 4900  
CCTAACTGAACTGAAAACCTGACTGTAGATTGAAAGATCAAACACAA 4950  
ATGACAGTGGGTCTCTGCAAGCTAAATCGGCCATGGGATTTCACCTT 5000  
CCTTCGAGTTGGAAAGGATTGCAATTGATGAAATTCTCTGACATCCGA 5050  
TTCACATCAACAAATAGCGGAGACTGCTGCAACCTTGAAGAGTTGACCTT 5100  
ATCGTACAATCATCCATGGGAGAATGGACATGGAGAAGACACC 5150

Figure 13C (cont.)

TTTGAGAATCTCAAATGTTGATGTTGACTCAAGTGATTCTTCCAAGTG 5200  
GGAGGTGGAGGAAATCTTCCACGCTTGAGAAATTAGACTGTCGG 5250  
ACTGTCATAATCTGAGGAGATCCCGCTAGTTTGGGGATTTTATTCC 5300  
TTGAAAATTATCGAAGCTTGAAGGAGCCTCACTTGAAGAATTCCGCTCT 5350  
CAAGATAAGGAATATGCTGAAGATATGAGGGGGAGGGACGAGCTTCAGA 5400  
TCCTTGGCCAGAAGGATATCCCGTTATTAAGTAGTTTGGAGCTTATATG 5450  
GTTGAAAAGTAGATTGCACTTGTGGTAGATTGTATATGGTTAAGAAA 5500  
ATTCTGTTACAGTTGCTTATGAAACATTTTATTGACTTTCTGAGTTTC 5550  
TTTTAGAAAACCTAGAACTTTAACAAAAATTAGTTTATAAAATAC 5600  
AATGTTGAAATTGCTTGGCTGTCACATTGGCTGAGCTCATATGCT 5650  
CAGAGCACTATCGTTCAACCTCAATCAAGGACTGATTAAAATGACATC 5700  
TATACTTATATCACAAAACCAAGCAACTTTCATCTCAAAAGCTAGGCC 5750  
AGGAAGTGAAGAGGTGTAGAGACCTTATAAGCACTCATGACTTCCCTT 5800  
CTCGAACATTCACCAACAGTAGGCCGAAATCCCACTCTGAAAGAAATAA 5850  
GTGTTTGTATCAAATTAACTCTGTTAGAGACACTGAAATACCTCT 5900  
TCTAAACGTTCAACAAATGGGATTCAGCACTCAAAGTGAATGAAAGGT 5950  
TCACATTAATCTCAAAAAGAATTACGACAATTCTGACCACAAGTACAT 6000  
TGACAGCACCAATTCAACAGAAGAACAGTCATGCTGCATCTCATCAA 6050  
TAATCCGAGTGTGCAACCTCTTCCTGACACTGTCTGTATATGTAAGT 6100  
TTCTCACACAGGGCAACTTCTGCTCTGATCTGGATGACCCCTCTGTC 6150  
TATAACTTCAACATTAAGGCCCTGGCAACTTCTGGACCAACAGCTTACATG 6200  
CTTCAAAACTTACTGAACAATTAGACATCCTAAAGGGGATCGCATTGTC 6250  
AGCTTGCAGCATTCAGCCAACAGGCCATCTGCCAAAGGGGCACTCT 6300  
AATCTGAAATTGAAAAATTGTTGTTGATGACTTTCTGACATCCG 6350  
ATGCACTATCAACAATAGCAAGACTGGAGGTGGAGAGCAATCTTATT 6400  
ATACAATCATTCAGGGAGAAGAATGGAACATGGGGGGAGGAAGACACTTT 6450  
GAGAACTGAAATTGTTGAGGCCACAAGCTACAGAAGTATTGAAATTGT 6500  
CATGAATATCAACATTCTCATCCTAGTTAATTCTTCAATTTTTAAT 6550  
AGACTCTCATTTTAATCTACAATTCTCTATTGACTTCTTTCTG 6600  
CAGGGTGGCACTTTAAATTCTAAAGTATTAGGATTGTGACAAACTCGAA 6650  
AAATATCTTAATGAGGTGAAGTTGAGCAGTCAGCAGATGGTGGTCCAA 6700  
CTCTAAGTTGACAAGCACATCTATCCGGAGGGGATTTCAAGCCCTGAT 6750  
GCATATGGTTAGTGTGGCTAGAGCAGACAGGATGTATTACCTGGATATCT 6800  
ACCAAGACGAATCCACAATCAGTTTATGTCAGCAACATGAAGTAAC 6850  
TCCCGATAGAACAGTAAAGCAAGATGTAGGTGATCTGACTCTAAG 6900

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Figure 13C (cont.)

AGATTGTACATTCTCTTGAGATTTACTGCTAATACAAATTACACC 6950  
TCAGAAGCGAATCTAGAATTCTAGAGCATGAATGCACCACTAATGAAAG 7000  
GAGAAAAAAGGAAGTATGAACTGGAAATTGATCCTGTTCTAGGTATA 7050  
TAAATTTATCATTCACATACTTCATTTGCAAAACAACTCTTTGCC 7100  
ATTATTCCTCAACAAGGGCTCTAATATTGCTAACTAAAGACTGTCAA 7150  
AAGGTAAGTCATCTCAAACCTCTTGTACTTTATCTAAAGGGGAAC 7200  
TATGAAAAAACAGAAACATCAGGAATGTCCTGAAACAAAGCAGCCTCAT 7250  
GCACAAACATCCAAAGCTGGTAGGAAATTGGAGGGATCCCATCCCAAGG 7300  
AGGATACTGTAGAAAAATTTAGTGGCTTCTTACCGCTCAACCCATGAT 7350  
CTATAGTTACATGGAGACAATTATGTTGCTGTTAGGCTCCGTCAA 7400  
TTCTCATAAACCAACACCAAAAGTCATCAGACATCATCTTCATTCAAC 7450  
AAGCTGACAATCTCCACAACTGTCAACTTGTAAATATGAAATATTAGC 7500  
CAGGTAGACGTACATATTACAAAATTGAGTTCTTATATAATATGGTTT 7550  
GAAGGATGAAACATGATGGGGAGGGTAGATAAAATAATATGAGGCAT 7600  
AAAAATAGGAAAGATATTGTAGTGAGAGGTTTGACTTTTATGCTGCT 7650  
TTTGATCTTCAGTTCTGTATTCTTTCTACTGCTTTCTCTTCTTT 7700  
TCCTGAGTAAAGTTTATGTAGGTACTTTTATACGTCCGATCGTGAGAA 7750  
CTTGAAAGAAGCTCTCTAGCTATGTTAGGTGCCACATAAAAAATG 7800  
AAATATTACAAAAACCTGATAATAAAACTAACTAATCTAAGATATTCAAC 7850  
TGCAACATACATGCAAAATATATATATAAATTTCATGAAATTATAA 7900  
CAAATAATAGATGTGAACATATAACTTTAAAATAATATTACATCCATAA 7950  
AGCTTAAATTCTAGATC 7967

Figure 13D

GATCTGCTTCAATGCTGATACCATGTAATTCACTGAACTCTAACTA 50  
AACATGGAGAATTAACTATTAGAAAGACTGATTGAAGGAGAAGAA 100  
GAGAGAAAAATTATATGAACTCATGAAACAAATGAATGAAAAAAT 150  
AATGAGAAGAACTATACTATTACAACTATATATCTTATTATCTTA 200  
ATCTGAAGCAGTTAATTAACTGACTCTAACACTAGACTGATAGGTGTA 250  
CATTTCTGTTAGTCGACTGCAGTCAGTAACTACTGCTAACATAAA 300  
GAATGTTGTTCGAACCTTCATTGCAATAGCTTCAATGAGAACATGT 350  
GTACCTGAAAGACACACAGTAAAGGTGTTATAATGAATAATATGAAT 400  
AAATCAAATAAATTAATTAATTAACATCCAATTAAACATTGGAGG 450  
TCCTGAAAATCGATGTAATTAAACAAAGACCCCTTGAAATTAAAGTCIG 500  
TAATTGAAAATTTGAGTAGTTAGGTTAGGGGACATTGACTATTTCATT 550  
TTCTTATCTTTCTAATTGTCGGCAGACAAGTGAGGAGGCCACTG 600  
TAATTGATTCACTGCTTTGCTTCTGACTTTGGAACATACTATGCA 650  
TCATATTGGCTTAATTATTCCTCTGTTTATTCCAGAAATTGGACCTC 700  
TATACATCTAATAACAAAGCAAGCAGAGGATATAGTTCATCAACTAA 750  
AAAGTTAGTCAACTCATCTAATATTGCTACTCTCATCTTATTGAAGT 800  
ACAGTTATGGAAAGTAGAAAGTGATGTAAGAAAAATGAAAGACTTTAGT 850  
AGGTTAGTTGGATCTAACAAAGAGAAAGGGAAATAATTGCAAGGAGAAAG 900  
AGAGAGGTTAAACTACTACACACCCGATTACAACAAACTTAA 950  
TTGTTGTTAGTTAAATGATACCTTCACCTCATTAAATTATTACTTACCCA 1000  
TGATAAGTTGTTAATTGGTATTAAATATCCGGTGCAGGTGAATTCTTA 1005  
CCGGGTGAGAGGGGATGGGGTGGAGTGTTGGAGTGAAACAGAACAGATG 1100  
TTTGTAGTTTCTAACATGACCGAAAGTTCCCTCACTAATGAAATA 1150  
TATTACTATACGCTATTAGAGATGAAAGGTTGGTACCGTTGGCTCG 1200  
TTCTGGATGAAACCCATTTCACAGTCATTCTTCAATTCAATCGC 1250  
AAAGTGACCTTATCATCTTCACTAAITAAGTCTCTAAGTTGCGGTG 1300  
AAAATAGTGAATTATTGATTATTCTTATCATTTCTTCTCCTG 1350  
ATAAGTTTATGACTTTTATGCATCAGGTCTGAGAACTTGGAAAGG 1400  
AAAAGTAGAAATCCATGGAAAACGAAAAGATAATGAGAACAGCAAACTC 1450  
ATTGGTATGTTATTGATAGAGTGAACTGTAAGTATTGAAATTGAGATA 1500  
TCATGTGGCTTTAAAATTGATATGTGTTATTGGCAGGAGTCATT 1550  
CTGCTTCCGAAGGATGCTGCCAATGTTGGAATTCTAGAGAGATTA 1600  
AAGAATGAAGAAGATCAAAGGCTGTTGATGTTGAGATCTGATTGAAAGCCT 1650

Figure 13D (cont.)

GAAATTGAGCTGACATTATTGTACATATGTCAGCTTTCTTATTCCG 1700  
ATTGGAGAAGTTGAAGATATACTGACTGAAAAAGACAAGAGGTGAG 1750  
AATCTGTTCAACCAATTGGATGATGATGGCAAAGACGTGGGTGAA 1800  
ATATGTCCTTACTAGCCCTGCCGGTAATATGGATGACTGTATAAGCTTGT 1850  
ATCATCGTTCAAACTAGATGCCACCATGATGGATGAGCAATTGGCTTC 1900  
CTCCTCTGAATCTCTCATCTATCCAAGCATCGTGTGAAAGATGTT 1950  
TCCTGGAGTGACTCAATATGAGGTCTTCAGAATGTATGTCACATAA 2000  
GAGATTCCATGGATTGATACTGAATTGTTGATTAAGCATGAGATGGTT 2050  
GAGAATGCTTATCTCTTTCAACTGATGGTGGAGAGTAGGAGCCTT 2100  
CCCTGGGAGGATCAGGCTGATGAAGACTCTAACCTCCGAGCTAGATG 2150  
AGGATGATCAGAATGATAAAGGCTCAACTCTTCAGCTGACATCTA 2200  
CTCTTGAGGATTGTTCAACTGATGGAGGTATGCACTATGTTATAA 2250  
AACTTTGAAAGCTTCAACCAAGAAAATTGGACGCTTCAATAAGAGC 2300  
TCCTGGAAACCTCTCGGACATTCTAGAGAATACTGATTCATCTACAA 2350  
GAGCATATGATAACTGTTATTACCCCTAACACTCAGGGGCTCGAACAT 2400  
TCATGTCATGATGGAATTCTATTGATTATTCTCTGATATGCCGCCA 2450  
AGGACTTTATTGATCATGACAACATTGGATCTGGCTCGTGTGTA 2500  
GCACCTACCGAGGAGGTCAACTCTGGTACGGGACTTGGAAAGAGAAATT 2550  
AAGGATTAAGAGAGTACTGACGAAACAAATTGTCACCCCTAAAGTTT 2600  
TGGAAATATTGAACTCTTAAAGGAAGATCTCAAACATGTTATCTGAAA 2650  
GTCCCCGATTCTCATATTGCTTCCCCATGAGTGATGGACCTCTCTT 2700  
CATGCACTGCTACAGAGACACTTATGAGTATTGCTGGATTCCAATGCTT 2750  
ATTCAATTGTTGATAAAGGACAAATTGGCTGGTAAAGAAGACTTG 2800  
GAATTCAAAAGATCTTTCTGGCAATTATTGAGCAAGGATTGTATAAAGA 2850  
TCTCTGGGACCTGTTCTAGATGTCATGAGGCAAAAGATGTCATAG 2900  
ATTCAATTATTGTCAGATAATGGCTCTTACATCTTATTCTCACTT 2950  
CCCATTACCAAGAAGAGATGATGCTTATCAAAGAAGAGGTCTGATTT 3000  
ACATGAGAACATTCCAAGAACAGAGGCTCATCGTGTGAACTCTCCA 3050  
AGAACCCAGTTGAGAGCAAGTCATTGACAACATGATAAAAATATTGTAAGT 3100  
TTTGGTGAGGGAGACAACATTGATACATTAGAAAGCTCACCAAGTGGACCGGC 3150  
AGATCTAGATGTCATTGATCATTGGTATGCCGGTTAGGTAAAACCA 3200  
CTTGGCTACAAAGTATAACATGATAAAATCAGTTCTAGCCATTGAC 3250  
CTTCGTCATGGTGCACGGTCACCAAGTATGACGAGAAGAGTTGTT 3300  
GGATAAAATTTCATACTCAAGTTAGTACTCAAATTCAAATTGAGTGAGA 3350  
ATATTGATGTTGCTGATAAACTACGGAAACATTGGAAAGAGGTAT 3400

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Figure 13D (cont.)

CTTATTGTCTTAGATGACGCTGGGATACTTAATACATGGGATGAGCTAAC 3450  
AAGACCTTTCCGTGATGGTATGAAAGGAAGTAGAATTATTTGACAACTC 3500  
GAGAAAAGAAAGTTGCTTGCATGGAAAGCTACACTGATCCTCTTAAAC 3550  
CTTCGATTGCTAAAGATCAGAAGAAAGTTGGAGATTAGAGAAAAGGGC 3600  
ATTGGAAACGAGAGTTGCCCTGTGAACTATTGGATGTTGGTAAAGAAA 3650  
TAGCCGAAAATTGTAAGGGCTTCCTGGGGGATCTGATTGCTGGA 3700  
ATCATTGCTGGGAGGGAAAAGAAAAAGAGTTGTTGGCTTGAAGTTGAAA 3750  
TAATTGCTATTCTTATTGGAAAGATGAACTGGAACTGATGAAAGTTA 3800  
TAGAAATAAGTTATGACCACTTACCTGATCACCTGAACCCATGCTTGTG 3850  
TACTTTGCAAGTGCAGGAAGGACTGGTAACGCAATCCATGAGTTGAA 3900  
ACTTATTGGGGTTTGAGGGGAAAGAGATGAGATGAAAGAGTC 3950  
TGGAAAGAGTGGTAAAGGTTGGGAAAGACAGATATGAAAGAGTC 4000  
GTAATTGTTCAATGAGATAGGTGATACCCCTACTTGCCAACTTGTGA 4050  
TCTTGTGATGACTTTGTTGATAAAAGCAGAAGGAAAGTTGTTG 4100  
ATCGGATAAGTTCAAGTGCCTCATCAGATTGTCACGPCAATTAGC 4150  
ATTGATTATGATGATGATGAGAGACCTTTGGCTTAATTGGCTCTGTT 4200  
CGGTTCAAATAAGAAAGGCTTCGGTAAACACCTCTATTCTTGACCA 4250  
TAAATGGAGATGAGCTGGACGACCACCTTCTGATACATTCTAAGA 4300  
CACTTGAGGCTTCTTAGAACCTTCGACCTGGAACTCTCTTTATCATGGT 4350  
TAAAGATTCTTGTGATGAAATATGATGTTGAACTTGGAGGACT 4400  
TAAGCATTGGGACAGAAGTTAAATCTGCCTTGTCTTCTCAAACCTC 4450  
TGGAAATGAAATCTTGTGTTGGAAATAACAAAGAATCAACCTTGATAC 4500  
ATTACCGAGAATTGGATCTTGTAAAGTTGCAAGTGTCTACGACTG 4550  
CTTGTCTTCTTGATATGGATCAGCATGAAATCAAACTGTATAGCAGAG 4600  
GACACAAAGTTGAGAACCTGACAGCATTAAGGGGAACCTCGTGTCTTCTA 4650  
TTGAAAGATACAGAGGATAATTCAAAGGCTTCCAACTTCAAGTGC 4700  
TTCATTCAAACCAAGGAGTCATGGGATTATTCAACAGACAAATTGG 4750  
TTCCGAAATTGGATTTCTTCAACTGGAACTAGAAAAACTCACTGTAGATT 4800  
TGAAAGATCAAACACAAATGACAGTGGGTCTCTGCAGCCATAATCGGC 4850  
CATGGGATTTCACTTTCTTGAGTTGAAAGATTGCAATTGCAATGAA 4900  
TTCCCTGACATCCGATTCACTTCAACAAATAGCGAGACTGCTGAAACCT 4950  
TGAAAGATTGTAACCTTTCTGACAAATCATCCATGGGAAGATGAAACA 5000  
TGGGAGAAGAAGACACCTTTGAGAATCTCAAAATGTTGATGTTGAGTCAA 5050  
GTGATTCTTCCAACGTGGGAGTTGGAGAGGAATCTTCCCACGCTTGA 5100  
GAAATTGAACTGTGGACTGTCATAATCTGAGGAGATTCCGCTAGTT 5150

Figure 13D (cont.)

TTGGGATATTATTCTTGAAAATTATCGAACCTGTAAGGAGCCCTCAA 5200  
CTTGAAGAATTCCGCCTCTAACAGATTAAAGGATATGCTGAAGATATGAGGG 5250  
AGGGGAGCGCTTCAGATCTTGGCCAGAAGGATATCCGGTATTAAAGT 5300  
AGTTTTGAGCATATTGGTTAAAGTAGATGCACTTGTGGTAGAT 5350  
TGTATATGGTTAAGAATTCTGTATCAGTTGTATGAAACATTTTATT 5400  
TGACTTTCTGAGTTCTTTAGAAAATCAGAAGTTTAAACAAAAATT 5450  
ATAGTTTTATAAATACAATGTTGAGCTTGTCACTTGGCTGTCAAACTTGGT 5500  
CTGAAGCTCATATGCTCAGAGCACTATCGTCAACCTCAATCAAGGTAC 5550  
TGATTTAAATGACATCTATACACTTATCACAAACCCAAAGGAACTTTC 5600  
ATCTCAAAAGCTAGGCCAGGAAGTGAAGAGGTTGAGAGACTTATAAGC 5650  
ACTCATGACTTCTCTTCGAAACATCAACCAACCGTAGGCTGAATATCCC 5700  
ACTCTGAACGAAAATAAGTGTGTTATPCAATTAAACTCTCGTAGTAGA 5750  
ACACTGAATACCTCTCTCAAAAGCTCAACAAATGGGATTTCCAGGACT 5800  
CAAAGTGAATGAAAGGTTCACTTAACTCTCAAAAGAATTAGCACAATT 5850  
CATGACCAAGTACATTGACAGCACCAATTCAACAGAAGACAAGTCAA 5900  
TGCTGCATCTCATATAATCCGAGTGTGCAACCTCTTCTGACACTG 5950  
TCCTGTATATGTAAGATTCTCAACAGGGAACTTCTGGCTCGTATCT 6000  
GGATGACCCCTCTCGTCTATAACTTCACACATTAAAGCCCTGGCAACTTCTG 6050  
GACCAACAGCTTACATGCTTAAACACTTACTGAACAATTAGACATCCAA 6100  
GGGATCGCATTGCTCGAGCTTTCGACAGTATAGCCAACAGAGCTCATCG 6150  
CCAAAGGGGAGCTCTAATCTGAATTGAAAAAAATTGTTGTTGTATGA 6200  
CTTCTCTGACATCCGATGCACTTACAAATAGCAAGACTGGAGGTTG 6250  
GAGAGGATCTTTATTATCAATCATCAGGGAAAGATGGACATGG 6300  
GGGAGGAAGACACTTTGAGAATCTGAATGTTAGAGCCACAAGCTAC 6350  
AGAACTATTGAATTGTCATGAATATCAACATTCTCATCTAGTTAAATT 6400  
CTTTTCATTTTAATAGACTCTCATTTAACTCAATATTCTTCTAT 6450  
TTGTGACTCTTCTGAGGTGGCAACTTAAATTCAAAAGTATAGGA 6500  
TTGATGACAACCTGAAAAATTCTTAATGAGGTGAAGTTGAGCAGTCA 6550  
GCAGATGGTGGTTCCAACCTCTAACGGTGAAGCAAGCACATACTATCCGGAGG 6600  
GCGATTTCAAGCCTGATGCAATATGTTAGTGTGGCTAGGCAGACAGGT 6650  
GTATTACCTGGATATCTACCAAGCAATCCACAATCAGTTTATGTCAA 6700  
GCAATACATGAAAGTAACTCCGATGAGAACAGTAAAGCAAGATGTGAGG 6750  
TGTATCTGACTCTAAGAGATTGACATTCTCTTGTGAGATTACTGC 6800  
TAATACAAAATTACACCTCAGAAGCGAATCTAGAATTCTAGAGCATGAA 6850  
TGCACCAACTAATGAAAGGAGAAAAAGGAAGTATGAAGCTGGAAATTGAT 6900

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Figure 13D (cont.)

CCTTGTCTAGGTATAAATTATCATGAACTATACTTCATTAGC 6950  
AAACAACCTCTTGCATTTCCTAAACAAAGGGCTCTAATATTGCT 7000  
AAACTAAAGACTGTCAAAGGTAAAGTCTCATCTCAAACCTCTTGTTAC 7050  
TTTATCTAAAGGGAACTATGAAACAAAGAACATCAGGAATGTCCTCGT 7100  
AAACAAGCAGCCTCATGCACAAACATCCAACGTTGGTAGGATAATGG 7150  
AGGGATCGCATCCCAGGGAGGACTGTAGAAAAAATTAGTGGCTCTTCA 7200  
CCGCTCAAACCCATGATCTATAGGTACATGGAGACAACCTTATGGTTGC 7250  
TCGTAGGCTCCCGTCATAAACCACACACCAAAGTTCATCAG 7300  
ACATCATCTTCAATTACAAGCTGACAATCTCCACAAAGTCCTAGTCACCT 7350  
GTAATATGAATATTAGCCAGGTAGACGTCACATTTACAAATTGAGTTT 7400  
CCTATATAATAGTGTGAAAGGAACTGAAACATGATGGGGAGGGTAGATAA 7450  
ATAATATATGAGGCATAAAAATGGAAAGATATTGTAGTGAGAGGTTT 7500  
TGACTTTTATGCTGCTTTGATCTTCAGTTCTGTATCTTTCTAC 7550  
TGCTTCTCTTCTTCCTGACTAAAGTTTATGTAGGTACTTTTAT 7600  
ACGTCGGATCGTGAGAAACTTGAAGAAAGCTCTATAGCTATGTTAGGT 7650  
GCCACATAAAAATGAATAATTACAAAAACCTGATAAATAAACACAC 7700  
TAATCTAAGATAATTCACTGCAACATACATGCAAAATATATATAATAAAT 7750  
TTTCATGAAAATTATAACAAAATAGATGTGAAACATATAACTTTAAAAA 7800  
TAATATTACATCCATAAAGCTTAAATTCTAGATCCATCTATGCTTGTATG 7850  
ATGCACTAGCTCGAAATCTCCATCAAGTGTAAACTACATATTCTTCATT 7900  
AAATTATATAGAAAACGATAATTAAAGGTGAAAACCTTATAAAGATATC 7950  
GTGTTGGTGTGAGTGAGGTGACAAAAATAAGTTGTGTGATTATTCAAAA 8000  
AGTTTATAACGAAAATTCAGCTTGAAATTATGAAACCTTAAATGT 8050  
TGTAACGAAAATTATACATTATTGTAGTGTACTGTGATTTAACTGAT 8100  
ATATAAAATAATATTGGTATTCTCTTCATCTGCGACATAATATGTTTT 8150  
TCATCTTTTCAATATAACAAAATAGAATTATTATTTGTGATCTTT 8200  
TAAGTACAATTATTCTATGTATAGTACAAAATAATTATTTACTGT 8250  
GGTAAAGTAATGGAAATAAGGGTCATAATTGAAATAACAAATATACTATA 8300  
CTATGTTAAAGTATTCTTATAGTAAATTCTCTAGAGTACTTGATTTC 8350  
TACATACAAATTACTAATTCTGAAATTTAAACTAAACTAAGGTAAATAAGA 8400  
GTTCTTTATTAAATTAAATTAGTTATAATAACTAAACTAAGGTAAATAAGA 8450  
CCTTAGTTAGTTAATGTGTCTCTGTGATTTCGGTCATAGTCAGGG 8500  
TGTACTTGTGCCATTCCAAAATGAAGGAATATCAAAAGATATATTAA 8550  
AATTAAATTAAATTGGGGTTATGAATATAAAAAGTATCAGAGTTCT 8600  
ACATATAAAGAGTAAACAAATTGAAATAATTAAATTATGAGATATGAAG 8650

Figure 13D (cont.)

GGGGACATTAAAGAAAAATAATAAATAAAATTAAAGGCTATAAATT 8700  
CATATAACATAATACCAATAAGCCGTAGAATATCTCCGTATAATGCATA 8750  
AACTAATAAAATCACAAATGATAACTCACATACAAATATTTTTGATAAA 8800  
GAATTGAATGTTGTAATAGAATGGAGAATACTTGTGCTTATTCATT 8850  
ATGTAAGACGTATAATACAATAACATGAGCTCTAATTAAAGGAAA 8900  
CTAAATAAGGAAGGAATCAAAAAATTATGTCATATCCCTACATATCTG 8950  
CTAGAGATTCTATCATATCCTTACATATCTGTTAACGCTATGCTACACCT 9000  
AAAGGTCTACAACTCATTTGTAACACTCCCCTCAAGTTAGAGCATAG 9050  
ATATTATTCACTTCCAACTTGTACAAAGATAATCAACTCGAGTTCCATT 9100  
CAACGCTTTGTGAACAATCAACTAGTTGCTCTCTGCTTCACTTAC 9150  
TAGTGGATATCAGGTTCTATGAACTCTCTCAGAATAAAATGAGCTCA 9200  
ACCTCAATATGTTAGTTGAGACAGGATTCAAGGCAATATG 9250  
GAGGCGAACCTTGATTATCATACAGAGTTGATGGTATATGATGCTTCA 9300  
ACCCATTCTGTAAAGATAATGATCCACATGATCTACCCATAGAC 9350  
TGTAACATAACTCTGACTTTGATTCGCACTAGATCAAGATAACAATT 9400  
TTGCTTTTACTCCTCCATGATACCAGGTTCTCATCCAACAAAGACACAAT 9450  
AACTTGAGTAGATCTTCTATCAATTTCGATCCAGCCAACTCGACATCT 9500  
GCAAAACACTCAATATGAGTATGGTCGTGATTTGATACTATATTCAAG 9550  
ACTAGGAGTTTCTTCAGTAACATAGAAATGTTCCAAGCTGCCAGT 9600  
GTTTGAAGTAGGTTGCAAACATGAACTAGCTAACACACTTACTGCAAAG 9650  
CAATATCAAGATGAGTCACAATAAGGTAGTTAACCTTCAACTAACCTT 9700  
TTGTATCTCTATGGATCATTTAAAGGATCGTCGTATCTTCATAAGATG 9750  
CATATTGGWACCATGGAGAACCTCAGGTTGGCTGCCATCTTCATT 9800  
TTCTGCAAGTAGATCGAGAGAAATATTCCTAAGACAAAAGAATTCCC 9850  
TTTTGTTTCTATTTACTCTACTCCAAAATGTTCAATTGACCCAA 9900  
GTCCTTGTATGAAACCAAGTATGCAAGGAAAGACTTGAGGGAGAGATC 9949

Figure 14

A



B

MEKRKDNEEANSLESFSALRKDAANVLDFLERLKNEEDQKAVDVDLIE  
SLKLKLTFICTYVQLSYSDELKFEDIMTRKRQEVENLLQPILDDDGKDV  
GCKYVLTSLAGNMDDCISLYHRSKSDATMMDQQLGFLLLNLISHLSKHRA  
EKMFPGVTOYEVLNQNVCGNIRDHFGLIVNCC1KHEMVENVLISLFLQLMAE  
RVGRFLWEDQADEDSQLSELDEDQNDKDPQLFKLAHLKKVPTTELEV  
MHICYKTLKASTSTEIGRFTIKKLLETSVDILEYLIHLQEHMITVTPN  
TSGARNIHVMMEFLLIILSDMPPKDFIHHDKLFDLLARVALTREVSTL  
VRDLEEKLLIKESTDETNCATLKFLENIELLKEDELKHVYLKVPDSSQYC  
FPMSDGPLFMHLLQPHLDLIDDSNAYSIALIKEQI\_GLVKEDLBFIRSFF  
ANIEQGLYKDLIWERVLDVAYEAKDVIDSIIVRDNGLLHLLIFSLPITRKK  
MLLKEEVSDLHENISKNRGLIVVNSPKKPVESKSLTTDKIIVGFEET

LZ

NLILRKLTSGPADLVDVISI1gmpglgkttlaYKVYNDKSVSSHFDLRAW  
CTDVQVYDEKKLLDKIFNQVSDNSKLSENIDVADKLRLQKQFLFGkryliv  
1ddvwdTTNWDDELTRPFDGMKGSriilatrEKKVLAHKGKLYTDPLNLR  
LLRSEESTWELLEKRAFGNGESCPDELLDVKGKEIAENCKgplvvdiagI  
IAGREKKVSWEVNNLHSFILKNEVEVMKVEISIYDHLDPH1kpcll  
yfasAPKDWWTTIHEKLWINGFGEVKTDMKSLEEVVKYLDLISSS  
LVICFNEIGDYPTCQlhdhvhdFCLIKARKEKLCDRRISSAPS DLLPRQ  
ISIDYDD

NBS

DEEHFGILNFVLFQGSNNK	1
RHSGKHLYSLTINGDE.	2
LRHLRLRTLHLESSFIMVKDSLLNE	3
ICMLNHLRVLYSIGTEVKSLPLSF	4
SNBLWNLEIILFDNKESTLIL	5
LPRIWDLVKLQVLFTTACs	6
FFIDMDADESILIAEDTH	7
LENLTALGEVLVSYWKDT	8
EDIFKPLPNLQVLHFK.LKESWDYSTEQYWFPK	9
LDFLTELEKLTVDPERSNTNDGSSAAINRPWD	10
FHFPSLKLRLQQLHEFP..LTSDSLST	11
IARLNLIEEELYLRTI.IHGEENNMGE	12
EDTFENLKCIMLSQVI.LSKWEGV	13
EESFPTLEKLELSDCHNLEELPSS	14
FGDIYSLKIIELVRSQPLENSALK	15

IKEYAEDMRGGDELQILGQKDIPLFK

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M11.1 VL S I D V --- N L K QV KI MA  
57  
M11.2 I VL S I I --- N L K QV KL MA  
57  
Rpi-blb2 MEKRKDNEEANNSL6PSALRXDAANVLDLFLERLQNEEDQKAVDVDLIESLKLKLTFICT  
60  
M11.1 C F Q L ----- F TS  
109  
M11.2 Y F Q N SL ----- TS  
109  
Rpi-blb2 YVQLSYSDLEKPEDINTTKRQEVENLLQFILDDDGKJVGCKYVL/TSLAGNMDDCISLYHR  
120  
M11.1 Y I D Y H I I G  
169  
M11.2 Y I D Y H I I L G  
169  
Rpi-blb2 S-KSDATMMDEQLGFLLLNL9HLSKIRAEKMPGVTQYEVLQNVCGNIRDHGHLIVNCCI  
179  
M11.1 P D H D T R E R SR  
229  
M11.2 P H T R EH R SR Q T  
229 Rpi-blb2 KHEMVENVL6LFQLMMAERVGRFLWEDQADEDSQLSLEDDDDQNDKDPQLFKLAHLLLKIV 239  
M11.1 V I TN A V L Q P V S  
289  
M11.2 TN A V I Q L P S L  
289  
Rpi-blb2 PTELEMHICYKTLKASTSTEIGRPIKKLLETSPDILREYLIBLQEHMIVITPWTSGAR  
299  
M11.1 L - D GV EP N GNNQ  
348  
M11.2 L - H GT N GNNQ  
348  
Rpi-blb2 NHVMMEFLIIILSDMPPKDPFIHHDKLFDLALARVVALTREVSTLVRDLEEKLRIKESTEDE  
359  
M11.1 DL K AL C HI N  
408  
M11.2 DL K A N C HM N  
408  
Rpi-blb2 TNCATLKFLENIELLKEDELKHVYKVPDSSQYCFPMSDGPLFMHLLQRHLDLDDNSNAYS  
419  
M11.1 E E Q K VD-A A  
467  
M11.2 S E E SQE GDAA I A  
468  
Rpi-blb2 IALIKEQIGLVKEDLEFIRSPFAN-IEQGLYKDLWERVLDVAYEAKDVIDSIIIVRDNGLL  
478  
M11.1 I IK I A D P D R T E  
527  
M11.2 I IK I A D P D R I E  
528  
Rpi-blb2 HLITFSLPITRKQMMILIKEEVSPDLRBNENISKNRGLIVVNSPKXPYESKSL/TTDKIIIVGPGEE  
538  
M11.1 S T S R GC  
587

FIGURE.15

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M11.2  
588  
Rpi-blb2 TNLILRKLTSGPADLVDISIlgmpgigktlaYKVYNDKSVSSHPDLRWMCTVDQVYDEK  
598

M11.1 NT S D T ESK  
647  
M11.2 T S G D N T L EAK  
648  
Rpi-blb2 KLLDIFRQVSDSNKLSENIDVADKLKQLFGKrylivlddvwMTNTWDEL/TRPFFDGM  
658

M11.1 E N D FD  
707  
M11.2 E N D FD D T  
708  
Rpi-blb2 KGSRIIILTTREKKVALHNGKLYTDPINLRLLNSEESWELLEKRAFGNESCPCDELLDVGKEI  
716

M11.1 A V R QSS S NS L H  
767  
M11.2 A V R QSS S NS L H  
768  
Rpi-blb2 AENCKgplvvldisqILAGREKKSVWLEVVNNLHSFILKMEVEVNGVIEISYDHLFDH  
778

M11.1 F TSL Y NVVF A G E N M M Y  
827  
M11.2 H W TPL YLPTVYL A E GI M  
828  
Rpi-blb2 lkpcillyfasPKDUWETTEHNLKINGFEGFVKTDMKSLEEVVXIKYILODLISSLVCF  
838

M11.1 YALNF I N F Q R T C E -  
886  
M11.2 ILNF I N F R T E  
888  
Rpi-blb2 NEIGDYPTCQIhdijvhdfCLIKARKEKLCDRISSSAPSULLPRQIISIDYDDDEEHFGLA  
898

M11.1 M D R I Q SV A V D M T  
946  
M11.2 M D R Q SV A I V D P L N  
948  
Rpi-blb2 VLGQSNKRNHSGKHLYSLTINGEELDDBLSDTFHLRHLRLLRVLHESSEIMVKDSLLNE  
958

M11.1 1 D Q Y 2 S STNR V L R SVD  
1066  
M11.2 R R Q Y F S S G IV L R SVG  
1068  
Rpi-blb2 ICMLNHLAYLSIGTZYKSLPLSFNSNUNLXLFYDNEKESTLILLPRIMDLVXLOVLTAA  
1018

M11.1 4 RI T LI S KN F L S E  
1066  
M11.2 K RI LI S MN F Q E  
1068  
Rpi-blb2 CSFFDMDADESILKLAEDTLENLTALEGELVLYSYKOTEDIPKRLRNLQVLRKLESWDY  
1078

M11.1 7 H SE T S G K S V T N I W R  
1126  
M11.2 H C T C G K S HC VVT N E L Y D  
1128

FIGURE 15 (cont.)

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Rpi-blb2	STEQYWFPKLDFLTELEKLTVDFPERSNTNDGSSAAINRPWDFHFPSSLXBLLOLMHEEPLT	
1138		
	10	
M11.1	P S H	F NFN SI
1186		
M11.2	P N S D Q	F N RLLT
1188		
Rpi-blb2	SDDSLSTIARLLNIKEVLYRTTINGEENNMGEDTFENLKCIMLSCVLLSKWEVGEESFP	
1198		
	12	
M11.1	N K RG K P	S KI K D
1246		
M11.2	N K QE GK P	F KI K D K ND
1248		
Rpi-blb2	TLEKLMLSDCHNLEETIPSSFGDIYSLKXIELVRSFOLENSALKIKEYAEDMRRGGDELQIL	
1258		
	14	
M11.1	N 1255	15
M11.2	N 1257	
Rpi-blb2	GQKDIPLPK 1267	

FIGURE 15 (cont.)

**Figure 16: Multiple Sequence Alignments of Mi1.1, Mi1.2 and Rpi-b1b2 nucleic acids**  
**CLUSTAL W (1.82) Multiple Sequence Alignments**

Sequence format is Pearson  
 Sequence 1: Mi1.1 3768 bp  
 Sequence 2: Mi1.2 3774 bp  
 Sequence 3: Rpi-b1b2 3804 bp  
 Start of Pairwise alignments  
 Aligning...  
 Sequences (1:2) Aligned. Score: 95  
 Sequences (1:3) Aligned. Score: 89  
 Sequences (2:3) Aligned. Score: 89  
 Guide tree file created: [/ebi/extserv/clustalw-  
 work/interactive/clustalw-20040503-14435620.dnd]  
 Start of Multiple Alignment  
 There are 2 groups  
 Aligning...  
 Group 1: Sequences: 2 Score: 65908  
 Group 2: Sequences: 3 Score: 65855  
 Alignment Score 66872  
 CLUSTAL-Alignment file created [/ebi/extserv/clustalw-work/interactive/clustalw-  
 20040503-14435620.aln]

CLUSTAL W (1.82) multiple sequence alignment

Mi1.1	ATGGAAACGAAAGTAATGAGAACAACTATGGCTATTTCTGCTCT	60
Mi1.2	ATGGAAACGAAAGATGAAAGAACAACTATGGCTATTTCTGCTCT	60
Rpi-b1b2	ATGGAAACGAAAGTAATGAGAACAACTATGGCTATTTCTGCTCT	60
	*****	*****

### Annotated Sheet Showing Changes

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Figure 16 (cont.)

Figure 16 (cont.)

M11.1	TATCATATCCDAAGATCAGTCGCTGAAAGAATTTCTGGAGATCTACTCATATGAGATT 447
M11.2	TATCATATCCDAAGATCAGTCGCTGAAAGAATTTCTGGAGATCTACTCATATGAGATT 447
Rpi-b1b2	TATCATATCCDAAGATCAGTCGCTGAAAGAATTTCTGGAGATCTACTCATATGAGATT 477
*	*****
M11.1	CTTCAGAATATATGCGCACACATAAGAGTTCATGGGTGATAGTGAATGGTGGCATT 507
M11.2	CTTCAGAATATATGCGCACACATAAGAGTTCATGGGTGATAGTGAATGGTGGCATT 507
Rpi-b1b2	CTTCAGAATATATGCGCACACATAAGAGTTCATGGGTGATAGTGAATGGTGGCATT 537
*	*****
M11.1	AAGGATGAGATGTTGAGATGTTGAGATGCTTCAACTGCTGAGAGTAGGAA 567
M11.2	AAGGATGAGATGTTGAGATGCTTCAACTGCTGAGAGTAGGAA 567
Rpi-b1b2	AAGGATGAGATGTTGAGATGCTTCAACTGCTGAGAGTAGGAA 597
*	*****
M11.1	CACCTCTTGGGATGATCAGTGTAGTGAAGACTGCTGAGCTAGATGAGGAT 627
M11.2	CACCTCTTGGGATGATCAGTGTAGTGAAGACTGCTGAGCTAGATGAGGAT 627
Rpi-b1b2	CACCTCTTGGGATGATCAGTGTAGTGAAGACTGCTGAGCTAGATGAGGAT 657
*	*****
M11.1	GARGAAATGAGAGACTGCTGACTTTCAAGCTAGACATCTCTTGAGATGCTT 687
M11.2	GAGACACATGATGAGAGACTGCTGACTTTCAAGCTAGACATCTCTTGAGATGCTT 687
Rpi-b1b2	GATGAGATGATGAGAGACTGCTGACTTTCAAGCTAGACATCTCTTGAGATGCTT 717
*	*****
M11.1	CCGGTTGAACTGGGGTTATACACATATGTTACAACTTGAAAGCTCACTTCAGCT 747
M11.2	CCAACTGAACTGGGGTTATGCACTATGTTACAAATTTGAAAGCTCAACTTCAGCA 747
Rpi-b1b2	CCAACTGAACTGGGGTTATGCACTATGTTACAACTTGAAAGCTCAACTTCAGCA 777
**	*****
M11.1	GAAGTGGACTCTCATTAAGCGCTTCTAGAAAACCTCTCAGATAATCTGAGGGAAATAT 807

Figure 16 (cont.).

Figure 16 (cont.)

Figure 16 (cont.)

Figure 16 (cont.)

Figure 16 (cont.)

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ACAGTGAGTGGAGSTGTGAAAGTTATGAAATAAGTTGACCATTCACACATAC 2301
ACAGTGAGTGGAGTGTGAAAGTTATGAAATAAGTTGACCATTCACACATAC 2304
ACAGTGAGTGGAGTGTGAAAGTTATGAAATAAGTTGACCATTCACACATAC 2334
ACAGTGAGTGGAGTGTGAAAGTTATGAAATAAGTTGACCATTCACACATAC 2394
CTGAGCCATGCTGCTGTGATTGCACTTTCGAGACTTCATGACATCTAT 2361
CTGAGCCATGCTGCTGTGATTGCACTTTCGAGACTTCATGACATCTAT 2364
CTGAGCCATGCTGCTGTGATTGCACTTTCGAGACTTCATGACATCTAT 2394
GAGTGAATGTTTATTGGTCTGAAAGGAGATGAGATTTGGAAAGGAGATGAGATGATG 2421
TGTTCATGTTTATTGGTCTGAAAGGAGATGAGATTTGGAAAGGAGATGAGATGATG 244
GAGTGAATGTTTATTGGTCTGAAAGGAGATGAGATTTGGAAAGGAGATGAGATGATG 2454
GAGAGATGGAGATTTATGGATGATTTATGGATGATTTATGGATGATTTATGGATGATG 2481
GAGAGATGGAGATTTATGGATGATTTATGGATGATTTATGGATGATTTATGGATGATG 2494
GAGAGATGGAGATTTATGGATGATTTATGGATGATTTATGGATGATTTATGGATGATG 2514
AATGAGATAGGTATGCACTGAAATTGATCTGTCATGACTCTTGTGTTG 2541
AATGAGATAGGTATGCACTGAAATTGATCTGTCATGACTCTTGTGTTG 2544
AATGAGATAGGTATGCACTGAAATTGATCTGTCATGACTCTTGTGTTG 2574
ATAAAAGCAAAAGGAAATTGTTGATCGATAAGATCAAGTGTCTCATCAGATGTTG 2601
ATAAAAGCAAAAGGAAATTGTTGATCGATAAGATCAAGTGTCTCATCAGATGTTG 2604
ATAAAAGCAAAAGGAAATTGTTGATCGATAAGATCAAGTGTCTCATCAGATGTTG 2634
TTCCCTGTCATAATTACATGTTGATGAGGAGGA--CAGTGTGGCTTAATTTC 2658

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### Annotated Sheet Showing Changes

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Figure 16 (cont.)

Figure 16 (cont.)

Figure 16 (cont.)

Figure 16 (cont.)

M11.1	GGCAAAGAAATATCCCTTATTAAGTAG	3768
M11.2	GGCAGAGAAATATCCCTTATTAAGTAG	3774
rp1-b1b2	GGCGAGATATCCCTTATTAAGTAG	3804
	*****	*****

**Figure 17: Multiple Sequence Alignments of M11.1, M11.2 and Rpi-b1b2 proteins**  
**CLUSTAL W (1.82) Multiple Sequence Alignments**

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Sequence format is Pearson
Sequence 1: M11.1          1255 aa
Sequence 2: M11.2          1257 aa
Sequence 3: Rpi-b1b2        1267 aa
Start of pairwise alignments
Aligning...
Sequences (1:2) Aligned. Score: 91
Sequences (1:3) Aligned. Score: 82
Sequences (2:3) Aligned. Score: 81
Guide tree file created: [/ebi/extserv/clustalw-work/interactive/clustalw-20040503-14322840.dnc]
Start of Multiple Alignment
There are 2 groups
Aligning...
Group 1: Sequences: 2          Score:25939
Group 2: Sequences: 3          Score:24668
Alignment Score 19405
CLUSTAL-Alignment file created [/ebi/extserv/clustalw-work/interactive/clustalw-20040503-14322840.aln]

CLUSTAL W (1.82) multiple sequence alignment
M11.1      MEKRKDNNEEANNNSIVLFSALSKDADVLVLE--NEENQKALDKDQEVEKIKLMAFICT 57

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Figure 17 (cont..)

M11.2 MEYKPKDIEFANNSIVLFSALSKDQVANLILE--"NENOKALDKQVEKLIKMAFICT 57  
Rpi-b1b2 MEERKRNDEEANNSLESFSALRKDQVANLDFLERLKREDKAYDVLDLIESLKLIKCT 60

M11.1 YVOLSCSDFFQEDIMTRKQEVENLQQLPILDD-----"VETSTTSNNDODISLYHR 109  
M11.2 YVOLSCSDFFQEDIMTRKQEVENLQQLPILDD-----"VLTSTTSNNDODISLYHR 109  
Rpi-b1b2 YVOLSCSDLEKEFEDIMTRKQEVENLQQLPILDDGDVGCKVYLTSAGMDCSIYHR 120

M11.1 SYKSDAIMDQEQLDELLNLYHLSKHHAEK1FPGT"TOYEVLQNCIGNTDFHGGLIVNGCI 169  
M11.2 SYKSDAIMDQEQLDELLNLYHLSKHHAEK1FPGT"TOYEVLQNCIGNTDFHGGLIVNGCI 169  
Rpi-b1b2 SK-KSDATMMDQEQLGFLNLASHSKHARAEMGFTG"TOYEVLQNCIGNTDFHGGLIVNCI 179

M11.1 KHEMVENVNPLFOLMADRYGHFELWDOTDDESDLSLSEDEONDSDRSLFKLAHLILKIV 229  
M11.2 KHEMVENVNPLFOLMADRYGHFELWDOTDDESDLSLSEDEONDSDRSLFKLAHLILKIV 229  
Rpi-b1b2 KHEMVENVNPLFOLMADRYGHFELWDOTDDESDLSLSEDEONDSDRSLFKLAHLILKIV 239

M11.1 PTELEYMHICYTNUKASTSAEVGLFIKQKLETSPDILREYLIPQHEHMVITPTSTSGAR 289  
M11.2 PTELEYMHICYTNUKASTSAEVGLFIKQKLETSPDILREYTQLOQHEMILTVITPTSTSGAR 289  
Rpi-b1b2 PTELEYMHICYTNUKASTSAEVGLFIKQKLETSPDILREYLIPQHEHMVITPTSTSGAR 299

M11.1 NHIVMMEFLILISDNP-KOFTHHDKLFULLDRVGVTTREVSTLVRDLEKLEKRNKEGNNO 348  
M11.2 NHIVMMEFLILISDNP-KOFTHHDKLFULLDRVGVTTREVSTLVRDLEKLEKRNKEGNNO 348  
Rpi-b1b2 NHIVMMEFLILISDNP-KOFTHHDKLFULLDRVGVTTREVSTLVRDLEKLEKRNKEGNNO 348

M11.1 TNGATDLDLLENILLLKKDKHVKYVLAQDSSQCCFPMSDGPLFMHLLHHLNLDNSAIS 408  
M11.2 TNGATDLDLLENILLLKKDKHVKYVLAQDSSQCCFPMSDGPLFMHLLHHLNLDNSAIS 408

Figure 17 (cont.).

Figure 17 (cont.).

Figure 17 (cont.)

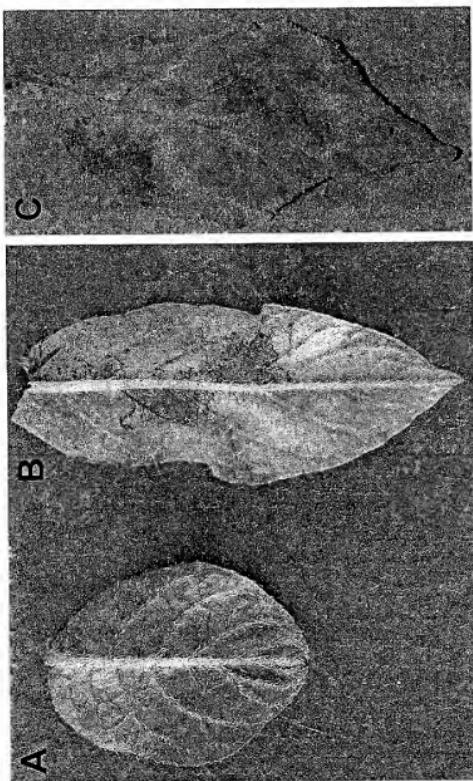


Figure 18